



# What's new in popular culture, ICT and media?

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Moderation Day 1 March 2016



# New tech in 2016

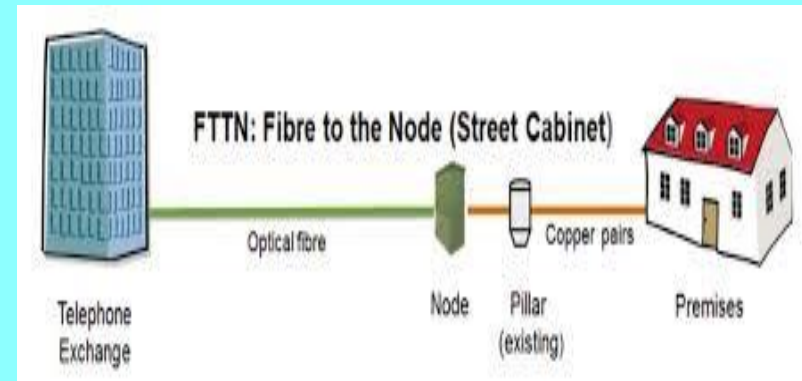
- More intelligent and intuitive digital or virtual assistants that will learn all about your habits and preferences
- Better language recognition on smartphones – personal virtual assistants will be voice activated and will do things on your behalf using your voiceprint (eg. make bookings)
- Products will be tailored to your needs (eg. ear scans used to 3D print perfectly fitting earphones; car seats moulded to your body shape)
- Biometric collection on your phone for authentication – face, voice and iris recognition
- Mobile phones will get bigger and tablets will be less in demand
- Phones will adjust according to your hearing profile
- Ransomware will be a major threat – criminals ask for money to give you back access to your phone or to regain access to your car's computer system



<http://www.smh.com.au/digital-life/hometech/tech-trends-2016-the-good-the-better-and-the-ugly-20151117-glOs4d.html>

# The need for speed

- How fast is Australia's download speed? In 2015 we were ranked 49<sup>th</sup> in the world
- In 2025, our broadband speeds will be at 75% of the world average (rank 100<sup>th</sup>)
- Fibre-to-the-node NBN (FTTN) will struggle to accommodate various devices and their download requirements in households of the future
- By 2020, 4K TVs and 4K ultra-high-definition video streaming will be common. By 2025, 8K TVs will be common - plus the demands of smartphones, tablets etc
- Telstra's free data Sunday 14 Feb to repay customers because of the recent Telstra meltdown – the equivalent of 2.3 million movies were downloaded



<http://theconversation.com/infographic-how-fast-is-the-nbn-54392>

# CBR*free* wi-fi

- Canberra's free outdoor public wi-fi
- When rollout is complete, it will be one of Australia's largest free wi-fi network
- Available so far in Civic East & West, Belconnen Town Centre, Dickson and Manuka – more areas will be added
- Indoor locations – EPIC, Tuggeranong Basketball Stadium, Criterium Cycling Stadium
- Floriade – 10 mobile stations; 5 Action buses
- 250 MB per day (7.5 GB per month - enough data to make 1500 Facebook posts or download 525 songs)
- In the last week of Oct 2015, 12 000 people used CBR*free*



<http://digitalcanberra.com.au/projects/canberra-public-wi-fi-strategy-2/#.VsOD5p9670>

# National Innovation & Science Agenda

<http://innovation.gov.au/>

- Australia needs to focus on innovation and turning ideas into successful products
- The government will help innovators and entrepreneurs get funding, assist research & business to work together and ensure students learn skills of the future
- \$1.1 billion package released Dec 2015 – the Ideas Boom
- \$48 million over next 4 years “inspiring” Australians in digital literacy and STEM
- Includes funding to upgrade teachers’ digital skills, educational apps and boosting participation of women and girls in STEM
- \$51 million over 5 years for coding in schools, online computing challenges for Years 5 and 7, ICT summer schools for Years 9 & 10, annual “Cracking the code” competition for Years 4-12
- More public data available for innovation and teaching classes



[http://www.abc.net.au/news/2015-12-07/pm-malcolm-turnbull-unveils-\\$1-billion-innovation-program/7006952](http://www.abc.net.au/news/2015-12-07/pm-malcolm-turnbull-unveils-$1-billion-innovation-program/7006952)



# Does the innovation statement overlook maths and science?

Trevor Cobbould from Save Our Schools:

- 18% of Aust. students do not achieve basic skills
  - The government's innovation package will spend \$100 million on school education over the next 5 years – which is only \$20 million per year or \$54 per student per year
  - This will do little to reverse Australia's declining maths and science results
- 2015 study by US National Bureau of Economic Research – economic growth could increase by 0.24% per year if student achievement were improved even slightly (improving US student results to those of Finnish students would improve long-term economic growth by 0.62% per year)



“Innovation statement overlooks maths and science”  
2016, *Australian Educator*, Autumn.

# Newspapers and online news

- UK newspaper *The Independent* to cease publication in print
- UK has many papers – but Australia is dominated by NewsCorp
- Andrew Jaspan left The Age and started The Conversation in 2011. It launched in the UK in 2013, the US in 2014, Africa and France in 2015.
- It is now “a global newsroom with 30 000 academic specialist authors who don’t just make it up after a quick Google search as is the case in most stretched newspaper newsrooms” (Jaspan)
- The Huffington Post Australia and BuzzFeed Australia were launched during the past year
- Book Depository is opening in Australia
- Amazon is opening more bricks and mortar shops in the US

Tony Nash of Booktopia – the biggest Australian-owned online book business



# ABC and SBS

Mark Scott (outgoing ABC head):

- Calls for a merger of ABC and SBS – the 2 taxpayer-funded services are “tripping over themselves”
  - ABC and SBS could still offer separate brands but bringing them together could save \$40 million per year
  - Predicts major newspapers will stop publishing weekday editions within 3 years
  - Many regional newspapers, radio and TV news services face uncertain futures due to internet competition
- We need the ABC - quality Australian content on TV is shrinking due to multichannels, Netflix, YouTube etc

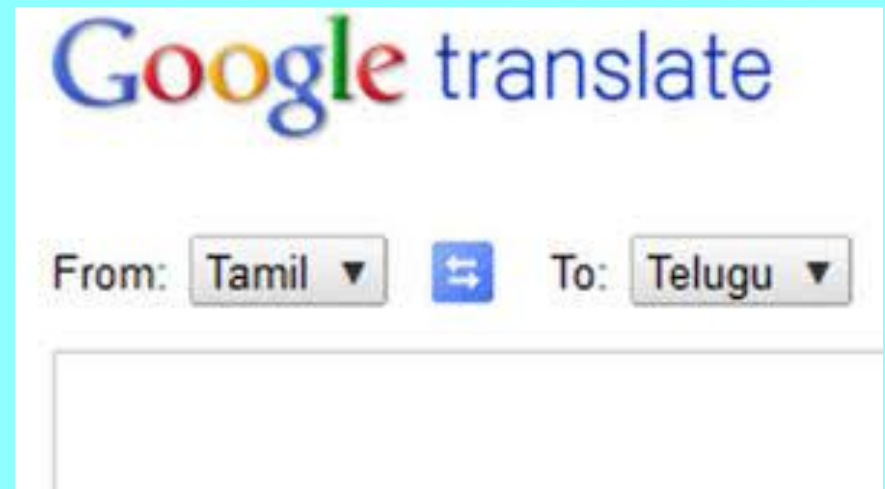


<http://www.abc.net.au/news/2016-02-24/mark-scott-delivers-national-press-club-address/7195888>



# Google Translate: translating the entire internet

- 13 more languages added 17 Feb 2016 (Amharic, Corsican, Luxembourgish, Frisian, Scots Gaelic, Pashto...) – access for an extra 120 million
- 103 written languages now covered – 99% of the total online population
- Translations are improved over time by improving algorithms and systems and learning from translations via Translate Community (3 million people have contributed)



<http://googletranslate.blogspot.com.au/2016/02/from-amharic-to-xhosa-introducing.html>

# Ngunawal language

- In February, PM Turnbull began his first speech on indigenous affairs in the language of the Ngunawal
- The language of the Ngunawal people was almost non-existent 2 years ago and had not been widely spoken for more than a century
- Tyronne Bell and Glen Freeman, of the Ngaiyuriidja Ngunawal Language Group, coached Turnbull so he could acknowledge the elders and pay his respects to Ngunawal people
- The PM committed an extra \$20 million over 2 years for the collection of “critical cultural knowledge” and the promotion of indigenous cultures and traditions
- Bell and Freeman have been collecting material to bring their language back to life
- They started with 30 words and now have over 300
- They believe there will soon be a strong enough understanding for Ngunawal to be taught in Canberra schools and to adults



<http://www.theage.com.au/comment/turnbulls-address-to-parliament-mark-of-respect-for-ngunawals-rediscovery-of-collective-soul-20160212-gmsanf.html>

# Google: Don't be evil?

- Google is one of the US's largest providers of edtech in K-12 schools
- Google tracks student data – but not to target them for advertising or to get personal details. It tracks students signed into Google Apps for Education when they use Search, YouTube, Blogger, Maps
- It uses the data “to develop and improve Google products” (Sue Molinari, a Google VP)
- Google Express Delivery Service - currently available in Los Angeles and San Francisco - same day delivery of fruit, vegies, meat, frozen foods, snacks, drinks



<https://www.washingtonpost.com/news/education/wp/2016/02/16/google-says-it-tracks-personal-student-data-but-not-for-advertising/>

# Project Loon

- Two-thirds of the world's population does not have internet access
- To be tested by real telecommunications carriers in 2016 after a series of setbacks
- The balloons can now be made more cheaply
- In 2015 one balloon travelled around the globe 19 times in 187 days
- A 15 Mbps connection can now be provided – Google is partnering with carriers in Indonesia and Sri Lanka in 2016 to test the system



<http://www.dailymail.co.uk/sciencetech/article-3452850/Googles-Internet-balloon-crashes-Sri-Lanka-test-flight.html>

<http://www.businessinsider.com.au/googles-internet-beaming-project-loon-balloons-are-now-being-tested-in-sri-lanka-2016-2>

# Tech fails: annoying gadgets and apps 2016

- Longer life for batteries – we don't need thinner phones
- Silence the touchscreen keyboard sounds
- Stop requesting our emails (use an alternate email if asked)
- Apps should stop tracking us – access is a privacy invasion
- Give us more Gigabytes - arghh “Storage almost full”!



<http://www.wsj.com/articles/tech-fails-what-annoys-us-most-about-gadgets-and-apps-in-2016-1455128746>

- End web browser tab overload
- Phones still can't replace wallets – we still need credit cards, licences etc
- Wi-fi routers fail whole homes
- Jeff you, autocorrect
- Apple needs a more open iOS
- Stop Uber driver distraction – checking phones etc
- In-flight wi-fi slow and unreliable



<http://www.wsj.com/articles/tech-fails-what-annoys-us-most-about-gadgets-and-apps-in-2016-1455128746>



# Virtual Reality (VR) is BIG!

- Facebook will launch the new Oculus Rift Headset this month
- Facebook users have uploaded over 20 000 VR-friendly videos in 360 degree format to the site, since late 2015 when the feature was first added. Are they planning to turn Facebook into something like Second Life?
- “VR is the next platform, where anyone can experience and share anything they want” – Zuckerberg
- People will swap still selfies for immersive video



<http://www.makeuseof.com/tag/facebook-maps-where-we-live-hoverboards-unsafe-tech-news-digest/>

# Virtual Reality

- Melbourne startup Zero Latency has developed free-roam virtual reality
- Wear the Oculus Rift headset and a computer in your backpack and wander a Melbourne warehouse shooting zombies (\$88/hour)
- Online real estate firm REA Group invested in Zero Latency's Pozible crowdfunding campaign
- Users wear a headset and virtually visit a house room by room
- Headsets to be released in 2016: Oculus Rift (owned by Facebook), Sony's PlayStation VR and HTC Vive



[http://www.theaustralian.com.au/life/personal-technology/zero-latency-gives-zombie-killers-a-shot-at-virtual-reality/news-story/ea2605b5135441580ff25f4cdf562381?from=public\\_rss](http://www.theaustralian.com.au/life/personal-technology/zero-latency-gives-zombie-killers-a-shot-at-virtual-reality/news-story/ea2605b5135441580ff25f4cdf562381?from=public_rss)

# Virtual and Augmented Reality at TED 2016

- The era of computer screens is ending
- Alex Kipman wore Microsoft's HoloLens augmented reality (AR) headset and shared the stage with an astronaut on Mars
- Meta conducted a 3D phone call and manipulated a holographic brain
- AR keeps you in this world whilst VR transports you to another world
- Many applications beyond video games – living a story, online shopping, confronting our fears, virtual visits, everyday computing
- Wearable computers are the next stage - from desktop PCs, to smartphones in pockets, to headsets and glasses



<http://www.cbc.ca/news/canada/british-columbia/ted-virtual-augmented-reality-1.3453884>

# Mobile World Congress 2016

- VR stole the show at Mobile World Congress in Barcelona 22 Feb 2016
- VR headsets and 360 degree cameras are becoming must-have accessories for new mobile phones
- Samsung is giving away its Gear VR headsets for free with pre-orders of new Galaxy S7 phones
- LG unveiled 360 VR goggles and camera to go with its latest G5 phone
- The packaging of Alcatel's Idol 4s phone doubles as a VR viewer
- “One day soon all of us are going to have the power to broadcast live so all of our friends and family can experience it like they’re right there with us” – Zuckerberg
- Nokia's OZO 360 video camera can stream sporting events and concerts live to audiences in high definition VR



<http://www.smh.com.au/technology/technology-news/mwc-2016-virtual-reality-steals-the-show-in-barcelona-20160224-gn24fq.html>

# Drones

- Drones operated by the company Australian UAV successfully guided the Aurora Australia icebreaker through Antarctic waters on its annual resupply voyage to Casey Station (Dec 2015)
- A hovering quadcopter made 5 flights (8 mins each) during the 9 day voyage
- A fixed-wing drone mapped the area around the station from the air
- Drones could be used in Antarctica for counting wildlife, mapping glaciers and creating 3D models of terrain



[http://www.theaustralian.com.au/life/aurora-australis-takes-drone-to-casey-station-antarctica-to-capture-polar-wonders/news-story/0c7e24afaeb89e154d44324c6b2ed138?from=public\\_rss](http://www.theaustralian.com.au/life/aurora-australis-takes-drone-to-casey-station-antarctica-to-capture-polar-wonders/news-story/0c7e24afaeb89e154d44324c6b2ed138?from=public_rss)

- Australian UAV has over 100 clients and their drones have been used for monitoring landfill sites, mines, pipelines, feral animals, water towers, mobile phone towers, beach erosion, sea-level rise and for counting trees in plantations
- Wedge-tailed eagles spot drones from 20km away and attack and down them every day!
- Business is set to boom- there are more than 400 registered UAV-related businesses
- Ninox Robotics - Sydney startup – uses infra-red technology to search for feral animals at night



[http://www.theaustralian.com.au/life/aurora-australis-takes-drone-to-casey-station-antarctica-to-capture-polar-wonders/news-story/0c7e24afaeb89e154d44324c6b2ed138?from=public\\_rss](http://www.theaustralian.com.au/life/aurora-australis-takes-drone-to-casey-station-antarctica-to-capture-polar-wonders/news-story/0c7e24afaeb89e154d44324c6b2ed138?from=public_rss)



# Undersea cables

- Animated map reveals 550 000 miles of cable hidden under the ocean that power the internet and carry 99% of traffic



<http://www.businessinsider.com.au/googles-internet-beaming-project-loon-balloons-are-now-being-tested-in-sri-lanka-2016-2>

# Twitter is dying...

- People are tweeting much less lately - could it be because of all the abuse on the platform?
- Abuse is killing the social web
- Social technologies are powered by network effects but abuse is an anti-network effect (I don't benefit from you being on the network - I suffer)
- In technology, "quality" isn't just error-free code – but abuse-free interaction
- Technologies that devalue us do not create value for us so we walk away



[http://www.huffingtonpost.com/umair-haque/why-twitters-dying-learn-from-it\\_b\\_8401542.html](http://www.huffingtonpost.com/umair-haque/why-twitters-dying-learn-from-it_b_8401542.html)

<http://www.newyorker.com/tech/elements/the-end-of-twitter>

# Social media/sleep balance

- Time spent on social media may be seriously undermining nightly rest
- Recent Uni of Pittsburgh studies of young adults (19-32 years) – heavy use of social media linked to sleep problems and significantly greater risk of depression
- 2015 study of teenagers (11-17 years) – social media use linked to diminished sleep quality, lower self-esteem and elevated levels of anxiety and depression



<https://www.psychologytoday.com/blog/sleep-newzzz/201601/tweeting-not-sleeping-balancing-sleep-and-social-media>

# FOMO



# FOLO



# Minecraft Education Edition

- Minecraft (bought by Microsoft in 2014 for \$2.5 billion) is used in over 7000 classrooms in more than 40 countries
- Microsoft recently acquired learning game MinecraftEdu from Finland – lessons and activities for teachers for using Minecraft with STEM, history, language, art
- The new Minecraft Education Edition will be rolled out mid 2016 – free at first, then \$5 pa per child



<http://education.minecraft.net/>

# Robot tutors

- L2TOR Project (pron. el-tutor)— social robot tutors have been employed in 4 European cities in the Netherlands, Germany and Turkey to help immigrant preschool children learn the local language
- The project is run by linguists and roboticists from European unis
- Students work through a course on a tablet under the watchful eye of a NAO robot
- The robot explains learning intentions before the lesson, observes body language during the lesson and assists with problems
- Social robots have marked benefits over screen-based tutoring and positive impacts on motivation



<http://www.l2tor.eu/>

<http://www.theatlantic.com/technology/archive/2016/01/robot-teaching-machines-language-learning-l2tor/426639/>



# Amazon Inspire

- Amazon Education is working on a new free platform that allows schools to upload, curate, share and discover open education resources (OER)
- Scheduled for release mid 2016
- Users can self-publish resources and add ratings and reviews
- Schools could upload their entire digital library if it was open and freely available
- Metadata tags will be assigned to the resources via Learning Registry



<https://marketbrief.edweek.org/marketplace-k-12/amazon-education-to-launch-new-website-for-open-ed-resources/>

# Teaching young children to code

- Parents are using gaming apps, online puzzles using visual programming languages and sequencing activities eg. Move the turtle app, Hopscotch app, Lightbot app, Robot turtles board game
- Scratch from MIT is popular (for ages 8+) – ages mazes, animations, games, birthday cards.
- Scratch Jr (ages 5-7) uses tiles or blocks rather than text. PBSKids ScratchJr – make up games featuring characters in PBS shows
- Code.org – many coding activities
- Following ordinary instructions and commands develops programming skills (eg. building Lego)



<http://www.wsj.com/articles/new-ways-to-teach-young-children-to-code-1455049777>



# ABC and SBS



## SBS Learn

- Free learning resources and a platform for teachers and students – clips, quizzes, fact sheets, posters
- Topics include: Sustainability, First Australians Histories and Cultures, Refugees and Asylum Seekers, Multicultural Australia, Cronulla Riots, The Boat, Go Back to Where You Came From
- All content available on YouTube

<http://www.sbs.com.au/learn>

## ABC Splash

- 3000+ videos, games, digibooks and resources mapped to the curriculum
- New hub for STEM  
<http://splash.abc.net.au/home#!/stem>
- Coding, robotics, engineering, construction, design, nanotechnology, makerspaces, STEM news

<http://splash.abc.net.au/home#!/home>

# Do video games boost learning?

- Large 2013 French correlational study 27 000 students in Year 9 – very little correlation between playing video games and cognitive/school tests
- Gamified learning engages students
- New neuroscience study from Uni of Bristol found progressive scoring systems in games deactivate the brain's Default Mode Network and quieten down parts of the brain associated with unfocused mind-wandering
- Students given the gamified version of a quiz maintained higher engagement and had more goal-directed behaviour



<http://journal.frontiersin.org/article/10.3389/fpsyg.2015.01891/full>

[http://readwrite.com/2016/01/27/video-games-education-default-attention-mode?utm\\_source=ReadWrite%20Newsletters&utm\\_medium=email&utm\\_campaign=bf678ffa14-RWWDailyNewsletter&utm\\_term=0\\_9fbeb5d667-bf678ffa14-201316605](http://readwrite.com/2016/01/27/video-games-education-default-attention-mode?utm_source=ReadWrite%20Newsletters&utm_medium=email&utm_campaign=bf678ffa14-RWWDailyNewsletter&utm_term=0_9fbeb5d667-bf678ffa14-201316605)

# Wootube

<https://www.youtube.com/user/misterwootube>

- Eddie Woo is Head Maths Teacher at Cherrybrook High in Sydney
- He has been recording his classroom lessons and putting them on YouTube since 2012
- Over 1 million views and 14 000 subscribers
- Winner of the 2015 Premier's Prize for Innovation in Science and Mathematics Education
- Wootube<sup>2</sup> - his channel for teachers  
<http://misterwootube.com/teachers/>
- “The tools that stick around and are powerful are the ones that help people interact at a deeper level and learn as a community” - Woo



<http://splash.abc.net.au/newsandarticles/blog/-/b/2167431/wootube-teaching-maths-with-technology>

# Taj Pabari

- 16 year old inventor, entrepreneur, philanthropist and educational pioneer – winner of the 2014 Australian Young Innovator of the Year
  - Founded Fiftysix Creations in 2014
  - The Fiftysix Tablet Kit – a tablet and coding kit for ages 8+ where children build and customise their own tablet - \$349
  - Each piece is snapped together like Lego
  - To build hardware, not with instructions, but understanding
  - To teach programming, not with tutorials, but experimentation
- 1000 tablets given to rural communities in Australia and also Nepal. Next stop - Kenya



<http://advanceqld.initiatives.qld.gov.au/innovators/diy-tablets.aspx>



# Quizling

- Canberra edutech startup by teachers Dion Oxley and Damien Trask – launched Feb 2016
- Free app aimed at primary school students, teachers, parents and schools
- Quizling enables students to make, take and share quizzes
- Partnerships with National Library, National Gallery, Mint, Inspiring Australia, National Sports Museum
- Institutions access quiz data to help build their marketing strategy and engage learners
- \$300 000 in seed funding and also support from ACT government grant programs for innovation and technology (Trade Connect and Icon)



<http://www.startupdaily.net/2016/02/canberra-edutech-startup-quizling-helps-keep-kids-engaged-learning-quizzes/>

# Words of the Year 2015

- **Collins Dictionary** – **binge-watch**. Other popular words: clean-eating, dadbod, ghosting, swipe, contactless, shaming, transgender
- **American Dialect Society** – singular **they** (gender neutral pronoun). Other popular words: ammosexual, ZFG, yaass. Most notable emoji – face with heart eyes
- **Merriam-Webster** – suffix **-ism**. Top words: socialism, fascism, racism, feminism
- **Oxford University Press** – (UK and US) **face with tears of joy emoji**
- **Global Language Monitor** – **microaggression**. Phrase – **migrant crisis**. Name? Guess! Other top words: climate changing, refugee, migrant, thug, trans, affluenza

- Most understood word of the English language? Guess!



<https://www.collinsdictionary.com/word-lovers-blog/new/binge-watch-collins-word-of-the-year-2015,251,HCB.html>  
<http://www.languagemonitor.com/category/word-of-the-year/>  
<http://www.americandialect.org/2015-word-of-the-year-is-singular-they>  
<http://blog.oup.com/2015/11/oxford-dictionaries-word-of-the-year-2015-emoji-face-tears-joy/>  
<http://www.merriam-webster.com/words-at-play/word-of-the-year-2015/-ism>

# Macquarie Dictionary Words of the Year 2015

- **captain's call** – unanimous (People's Choice and also the Committee)
- Runners-up – **keyboard warrior** and **wombat gate**
- Category favourites – slipstream fiction, abandoned porn, deso, lumbersexual, hoverboard, fitspiration, digital tattoo, dox, fancruft, fur baby, grandcare, slackpacking, selfie drone
- Most searched words online in 2015 – chuffed, wellbeing, practice, practise, firsthand, licence, healthcare, onboard, longstanding, frontline



<https://www.macquariedictionary.com.au/news/view/article/352/>

[https://media-macquarie-wspdigitalproduction-com.s3.amazonaws.com/media/hosted\\_files/Macquarie\\_Word\\_of\\_the\\_Year\\_2015\\_entries.pdf](https://media-macquarie-wspdigitalproduction-com.s3.amazonaws.com/media/hosted_files/Macquarie_Word_of_the_Year_2015_entries.pdf)

<https://www.macquariedictionary.com.au/news/view/editor/article/337/>

# The Oscars 2016

Best picture nominations:

- Spotlight - winner
- The Martian
- The revenant
- Room
- Bridge of spies
- The big short
- Brooklyn
- Mad Max: Fury Road



Best animated film: Inside out

Best actor: Leonardo DiCaprio

Best actress: Brie Larson

<http://www.theguardian.com/film/2016/feb/29/oscars-2016-full-list-of-winners>

# Good TV 2016

- Tomorrow when the war began - miniseries
- The Sapphires – animated children's series
- Nowhere boys – feature film
- Black as – 3 Yolngu and 1 white man set off on a journey in the Top End (26 x 4 min.)
- Cleverman – Dreamtime legend mixed with spec fiction. Two indigenous brothers fight for their survival in a futuristic world (6 parts)
- Barracuda – explores Australia's obsession with sporting heroes and the demands placed on them. Miniseries based on the novel by Christos Tsiolkas
- The Great Education Experiment – ABC filmmakers spent a year in a Dandenong high school putting the education system under the microscope



# Good films

2016:

- Ranger's apprentice – YA fantasy
- Red rising – based on the sci-fi trilogy by Pierce Brown
- Red dog: true blue – new Red Dog story

2015:

- The Martian – sci-fi
- The dressmaker – Gothic, crime, comedy
- Ex machina – sci-fi
- Inside out – Pixar animated film, great for psychology
- Me and Earl and the dying girl – based on the YA novel by Jesse Andrews





Yass cat 😊



[https://www.youtube.com/watch?v=jGUn-rOI\\_9s](https://www.youtube.com/watch?v=jGUn-rOI_9s)